

IN THE CLAIMS:

1. (Currently Amended) A press device comprising:

a base;

a support plate supported in parallel with the base through a plurality of guide poles installed upright on the base;

5 a slider capable of sliding on said guide poles and capable of vertical movement between said base and said support plate;

a plurality of drive shafts engaged with a plurality of pressurizing points distributed on the slider for pressing the slider;

a plurality of motors for driving each of the drive shafts respectively;

10 a control means for driving control of each of the motors independently among the plurality of motors; and

a displacement measuring means for measuring position displacement of said slider with respect to said base, ~~said control means having an extraction data means for extracting wherein, in teaching processing performed in advance and/or simulation,~~ displacement data
15 corresponding to inclination of said slider during ~~working~~ actuation of slider at a plurality of time periods ~~each time stage or each press position stage~~ based on rotation of [[said]] each drive shaft by each of said motors ~~as well as~~ and for extracting data of torque ~~against time supplied to each said motor as a function of time or press position~~ at each said time period time stage or each press position stage during ~~said working~~ actuation of said slider, said data of
20 against time or press position being able to correct the inclination and having to be supplied to

~~each of said motors are extracted;~~ and

25 ~~a driving and controlling means for performing in press working, said control means performs additional torque strengthening driving such that for applying a additional torque is applied to each of said motors based on said data of torque against as a function of time or press position for each of said motors at each of said time periods, stages or press position stages where each of said motors [[is]] being independently driven and controlled to correct said inclination of said slider based on said data of torque as a function of time.~~

5 2. (Currently Amended) The press device according to claim 1, wherein the data of torque as a function of time ~~against time or press position at each time stage or each press position stage during said working, said data having to be supplied to each of said motors are determined and extracted such that a reference delay shaft is determined, said reference delay shaft being a drive shaft having a delay that is less than a delay of another drive shaft, each of said drive shafts receiving said additional torque such that a delay of each of said drive shafts corresponds to said delay of said reference delay shaft according to a delay amount to a lowering command value of said slider for each toward said pressurizing points corresponding to the plurality of motors.~~

3. (Currently Amended) The press device according to claim 1, wherein the data of torque as a function of time ~~against time or press position at each time stage or each press position stage during said working, said data having to be supplied to each of said motors are~~

determined and extracted ~~[[based]]~~ such that a reference delay pressurizing point is determined,
5 said reference delay pressurizing point having a delay that is less than a delay of another
pressurizing point, each motor receiving said additional torque strengthening driving such that
a delay of each of said motors corresponds to said delay of said delay pressurizing point ~~on a~~
~~difference between a pressurizing point with a larger delay to the lowering command value~~
~~toward the slider and the pressurizing point with the least delay to the lowering command value~~
10 ~~toward said slider as a reference among said plurality of pressurizing points corresponding to~~
~~the plurality of motors.~~

4. (Original) The press device according to claim 1, wherein each of the plurality of
motors for driving each of said drive shafts is constituted so as to rotate said drive shaft with
at least two motors as a pair, said control means performs driving control for at least one of the
motors based on a command value for rotating the pair of drive shaft, and performs driving
5 control for additional driving for at least the other of said motors based on said data of torque
against time or press position.

5. (Original) The press device according to claim 4, wherein the motor on the side of
driving control based on said command value is constituted by a pulse motor, while the motor
on the side of said additional driving is constituted by a servo motor.

6. (New) A press device comprising:

a base;

a plurality of guide poles engaging said base such that each of said guide poles extend in an upright position;

5 a support plate supported in parallel with said base via said plurality of guide poles;

a slider mounted on said guide poles such that said slider is movable between said base and said support plate;

a plurality of pressurizing points distributed on said slider;

a plurality of drive shafts, each drive shaft engaging one of said pressurizing points;

10 a plurality of motors, each motor driving one of said drive shafts;

a control device for controlling each motor independently; and

a displacement measuring means for measuring position displacement of said slider with respect to said base during actuation of said slider, said control device receiving displacement data from said displacement measuring means and torque data from each of said motors, said displacement data corresponding to inclination of said slide during movement of said slider based on rotation of one of said drive shafts, said torque data corresponding to torque supplied by each of said plurality of motors during movement of said slider, said control device providing an additional torque strengthening signal to each of said plurality of motors based on said displacement data and said torque data such that torque supplied by said plurality of motors is controlled independently to maintain said slider in a horizontal position.

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7. (New) The press device according to claim 6, wherein said torque data are determined and extracted such that a reference delay shaft is determined, said reference delay shaft being a drive shaft having a delay that is less than a delay of another drive shaft, each of said drive shafts receiving said additional torque strengthening signal such that a delay of each of said drive shafts corresponds to said delay of said reference delay shaft.

8. (New) The press device according to claim 6, wherein said torque data are determined and extracted such that a reference delay pressurizing point is determined, said reference delay pressurizing point having a delay that is less than a delay of another pressurizing point, each motor receiving said additional torque strengthening signal such that a delay of each of said motors corresponds to said delay of said delay pressurizing point.

9. (New) The press device according to claim 6, wherein each of the plurality of motors for driving each of said drive shafts is constituted so as to rotate said drive shaft with at least two motors as a pair, said control device controlling at least one of the motors based on a command value for rotating the pair of drive shaft, said control device controlling the other of said motors based on said torque data.

10. (New) The press device according to claim 9, wherein the motor controlled based on said command value is a pulse motor and the motor controlled based on said torque data is a servo motor.

11. (New) A press device comprising:

a base;

a plurality of guide poles engaging said base such that each of said guide poles extends in an upright position;

5 a support plate supported in parallel with said base via said plurality of guide poles;

a slider mounted on said guide poles such that said slider is movable between said base and said support plate;

a plurality of pressurizing points distributed on said slider;

a plurality of drive shafts, each drive shaft engaging one of said pressurizing points;

10 a plurality of motors, each motor driving one of said drive shafts;

a control device controlling each motor independently; and

a displacement measuring means for measuring position displacement of said slider with respect to said base during actuation of said slider, said control device receiving displacement data from said displacement measuring means and torque data from each of said plurality of motors, said displacement data corresponding to inclination of said slide during movement of said slider based on rotation of one of said drive shafts, said torque data corresponding to torque supplied by each of said plurality of motors during movement of said slider, said control device controlling torque of each of said plurality of motors independently based on said displacement data and said torque data and a current position of said slider as detected via said displacement measuring means such that said slider is maintained in a horizontal position.

12. (New) The press device according to claim 11, wherein said torque data are determined and extracted such that a reference delay shaft is determined, said reference delay shaft being a drive shaft having a delay that is less than a delay of another drive shaft, each of said drive shafts receiving said additional torque strengthening signal such that a delay of each
5 of said drive shafts corresponds to said delay of said reference delay shaft.

13. (New) The press device according to claim 11, wherein said torque data are determined and extracted such that a reference delay pressurizing point is determined, said reference delay pressurizing point having a delay that is less than a delay of another pressurizing point, each motor receiving said additional torque strengthening signal such that a delay of each
5 of said motors corresponds to said delay of said delay pressurizing point.

14. (New) The press device according to claim 11, wherein each of the plurality of motors for driving each of said drive shafts is constituted so as to rotate said drive shaft with at least two motors as a pair, said control device controlling at least one of the motors based on a command value for rotating the pair of drive shaft, said control device controlling the other
5 of said motors based on said torque data.

15. (New) The press device according to claim 14, wherein the motor controlled based on said command value is a pulse motor and the motor controlled based on said torque data is a servo motor.